

SPECIFICATION

TITLE

“DEVICE FOR SEPARATING IMPURITIES FROM THE LUBRICATING OIL OF AN INTERNAL COMBUSTION ENGINE”

BACKGROUND OF THE INVENTION

The present invention relates to a device for separating impurities from the lubricating oil of an internal combustion engine, said device comprising a filter element at its bottom and, on top of said filter element, a centrifuge with a rotor drivable by means of lubricating oil flowing therethrough, wherein said filter element and said centrifuge are arranged, one above the other, in a common two-piece housing that is closed during operation of the device and comprises a removable upper screw cap and a stationary lower housing part, wherein a removable intermediate cap is arranged in the housing between said filter element and said centrifuge, and wherein said centrifuge, said intermediate cap and said filter element can be removed from the housing while the latter is in its open state.

A device of the aforementioned type has been disclosed in DE 43 06 431 C1. If the screw cap, as a removable part of the housing of this known device, is rotated in its loosening rotational direction, then first only the screw cap moves, in its thread, away from the stationary part of the housing in an upward direction, whereas the centrifuge rotor arranged in the upper part of the housing remains in its position. After the housing cap has been removed, the rotor of the centrifuge is positioned in its lower bearing. Then the centrifuge rotor can be removed. Thereafter, the intermediate cap has become accessible. The intermediate cap must be pulled out of the lower part of the housing in an upward direction. Provided that detachable connection means are provided between the intermediate cap and the filter element, said intermediate cap takes along said filter element that is arranged below it, thus also removing it in an upward direction. After the combined unit consisting of intermediate cap and filter element has been removed, the filter element can, by canting or by exerting a tractive force in axial direction, be disengaged from and pulled out of the intermediate cap, while a new filter element can be inserted in the intermediate cap and brought in engagement therewith through the detachable connection means.